NASA Engineering Training Design Exercise

Exercise Description

Participants will be given a bonafide, real-life mission objective and divided into competing groups to conceptually design a mission to meet the objectives at an acceptable lifecycle cost. Each group will use a structured space system engineering approach to develop a mission concept and supporting space mission architecture to meet the stated mission objectives.

Each group is expected to develop a credible design, perform a lifecycle cost estimate and identify critical requirements and system drivers for their concept. The product of the design exercise is a 1-hr technical proposal presentation and the participants are expected to defend their design decisions.

Who Should Attend

This course is designed for a variety of space professionals who must interact with one another to produce cost-effective space missions, including managers of all types, scientists (principal investigators), spacecraft engineers, designers, analysts, operators, and users of space systems. System engineers functional and project managers who must create overall mission architectures and are responsible for the detailed design and operation of space systems will find it particularly applicable to their day-to-day activities. Past participants from Human Exploration and Development of Space, Space Science and Earth Science are ideal!

Design Exercise Topics

- Mission Design Experience Process and Scientific Objectives
- Individual Behavior, Interpersonal Skills, Process and
- Teambuilding Activities
- Mission Concepts and Space Mission Architectures
- Requirements and Conceptual Design
- Orbit Analysis, Design and Selection
- Space Environment and Its Impact on Mission and Spacecraft Design
- Space Payload Definition
- Spacecraft Bus Design and Sizing
- Mission Operations & Ground Infrastructure
- Launch Vehicle Selection
- Life-Cycle Cost Modeling
- Complete End-to-End Design Exercise
- One-Hour Final Participant Presentation Includes…
- Design Experience Debriefing

Class Name:

NDE 23

Location:

Goddard Space Flight Center (GSFC)

Program is **Non-Residential** (HQ will cover tuition only)

Date:

March 15 - 19, 2004

How to Apply:

Download the **Nomination Form** and Contact your Center Training Point Of Contact for your Center's registration procedures.

Workshop Presenters and Facilitators:
Dr. Jeff Austin, Dr. Wiley Larson and Mr. John Clark

This is a ***hands-on workshop*** that focuses on helping you apply the information and processes presented once you return to your job.

Workshop Materials
Each participant will receive a copy of the following reference:
Space Mission Analysis and Design - co-authored and edited by Larson and Wertz and published by Kluwer, 1992, 1994, 1995 and 1999.

For more information call or e-mail Jessica Schmidt Paquin at RGI, Inc

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